

**REMARKS**

This application has been carefully reviewed in light of the Office Action mailed July 6, 2004. Claims 1-3, 6-12 and 27-38 are pending in the application and stand rejected. Claims 4 and 5 have been canceled and Claims 13-26 have been withdrawn. Applicants respectfully request reconsideration and favorable action of all pending claims in view of the following remarks.

**Finality of Office Action**

Applicants note that the present Office Action was prematurely made final and request withdrawal of the finality of the present Office Action. The M.P.E.P. is clear at Section 706.07(a) that

a second or subsequent action on the merits in any application or patent undergoing reexamination proceedings will not be made final if it includes a rejection on newly cited art, other than information submitted in an information disclosure statement filed under 37 C.F.R. §1.97(c) with the fee set forth in 37 C.F.R. §1.97(p), of any claim not amended by applicant or patent owner in spite of the fact that other claims may have been amended to require newly cited art.

The finality of the Office Action is improper because Claims 27-36 were not amended but were rejected on newly cited art that was not filed in an information disclosure statement filed under 37 C.F.R. §1.97(c). The withdrawal of the finality of the Office Action is respectfully requested.

**Section 102 Rejections**

Claims 1-3, 6-12 and 27-38 were rejected under 35 U.S.C. 102(b) as being anticipated by WO 00/39570 issued to Chandra, et al (“*Chandra*”). Applicants respectfully traverse.

Claim 1 is allowable at least because the cited reference does not teach or suggest “the chemical sensitive layer having a thickness thin enough such that adsorption of the target matter into the chemical sensitive layer creates an interfacial tension at the interface of the chemical sensitive layer and the piezoresistive material that changes the electrical resistance of the piezoresistive material, but thick enough such that the reaction of the target matter with the chemical sensitive layer does not affect the bulk properties of the chemical sensitive layer enough to change the electrical resistance of the piezoresistive material.” This limitation is clearly not present in *Chandra*. Rather, *Chandra* is completely silent on any

relevant teachings regarding the thickness of its chemical sensitive layer. With respect to chemical sensitive layer 30 of *Chandra*, the specification merely states:

Chemical sensitive layer 30 is mechanically coupled or bonded to piezoresistive material 20. Chemical sensitive layer 30 is comprised of a material chosen to preferentially react with a selected target matter. The interaction of the target matter (not explicitly shown) with chemical sensitive layer 30 may change the physical properties of chemical sensitive layer 30, such as molar volume, morphology, and the like, and may lead to a microscopic change in the dimensions (strain) of chemical sensitive layer 30.

Page 5, line 25 and Page 6, line 2, and

Since chemical sensitive layer 30 is coupled to piezoresistive material 20, the strain induced in chemical sensitive layer 30 causes stress to be applied to piezoresistive material 20. This applied stress results in a change in resistance may then be measured by the third component, an electrical circuit 40, shown in FIGURE 2.

Page 6, lines 14-20. Clearly none of these passages, nor any others in *Chandra* disclose anything about the dimensions of the chemical sensitive layer.

In contrast, the present application teaches

Chemical sensitive layer 30 may be configured such that its thickness is thin enough so that adsorption of molecules of the target matter creates a surface tension at the interface of chemical sensitive layer 30 and piezoresistive material 20, but not thick enough such that a change in the bulk properties of chemical sensitive layer 30 affects the resistance of piezoresistive material 20 (for example, such that the target matter does not diffuse or absorb into chemical sensitive layer 30 enough to affect the resistance of piezoresistive material 20).

Page 8, lines 32- Page 9, line 9. Clearly *Chandra* does not anticipate Claim 1.

The Office Action states that *Chandra* teaches the apparatus comprising the recited structure of Claim 1, Office Action at 2, but this is incorrect. As described above, *Chandra* discloses nothing relevant regarding the thickness of the chemical sensitive layer. The additional remarks in the Office Action regarding the rejection of Claim 1 consist of three alleged statements of law regarding (1) structural limitations, (2) manner of operating an apparatus, and (3) inherent properties or functions. But none of these statements of law (even if correct) result in a finding of anticipation by *Chandra*.

First, the Office Action states that the Courts have held apparatus claims must be structurally distinguishable from the prior art in terms of structure, not function. But *Chandra* still does not anticipate Claim 1 because *Chandra* fails to disclose the above-recited thickness limitation for the chemical sensitive layer. Second, the Office Action states that the manner of operating an apparatus does not differentiate an apparatus from the prior art, if the prior art teaches all of the structural limitations, but this also does not render Claim 1 anticipated. Claim 1 is not anticipated at least because *Chandra* does not disclose the claimed thickness of the chemical sensitive layer, not because of some unidentified manner of operating the sensor. Lastly, the Office Action states that when structure recited in the reference is substantially identical to that of the claims, claimed properties or functions are presumed inherent, but this statement does not render Claim 1 anticipated. As described above, *Chandra* is silent regarding the appropriate thickness for the chemical sensitive layer, and thus the structure recited in the referenced is not substantially identical to that of the claim.

For the reasons described above, Claim 1 is allowable, as are the claims depending therefrom. Reconsideration and favorable action are requested.

Claim 27 is allowable at least because *Chandra* fails to recite a method involving “coupling the chemical sensitive layer to a piezoresistive material, the chemical sensitive layer configured such that the reaction of the target matter with the chemical sensitive layer creates an interfacial tension at the interface of the chemical sensitive layer and the piezoresistive material that changes the electrical resistance of the piezoresistive material, but such that the reaction of the target matter with the chemical sensitive layer does not affect the bulk properties of the chemical sensitive layer enough to change the electrical resistance of the piezoresistive material.” Because *Chandra* is completely silent on the configuring of the chemical sensitive layer, Claim 27 is not anticipated.

The Office Action again makes several statements of law which (even if correct) again fail to establish unpatentability. First, the Office Action states that *Chandra, et al.* teach all of the structure of the apparatus provided in the claimed detection method, which merely recites the conventional operation of that apparatus,” but this is both incorrect and irrelevant. The structural limitations of the chemical sensitive layer are not disclosed by *Chandra*. And nevertheless, Claim 27 recites the above method act of configuring the chemical sensitive layer, which is not disclosed in *Chandra*. The Office Action also states that “regarding process or method claims, a prior art device anticipates a claimed process if

the device carries out the process during normal operation.” Again this statement of law is not relevant. There is no disclosure in *Chandra* of a method act that involves configuring the chemical sensitive layer in the manner recited in that claim (nor has the Office Action even asserted there is). Lastly, the Office Action states that where the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed that the device will inherently perform the claimed process. Again, this statement of law is irrelevant. First the devices are not the same, as described above. Second, Claim 27 does not claim a method of using a device, but rather a method of detecting target matter that includes configuring the chemical sensitive layer in a particular way, which is neither described nor inherent in *Chandra*.

Claim 27 is also allowable because *Chandra* fails to disclose “detecting a change in the electrical resistance of the piezoresistive material **due to the interfacial tension.**” It appears that *Chandra* involves detecting a change in electrical resistance of the piezoresistive material, but does not disclose detecting a change **due to the interfacial tension.** Thus, *Chandra* would not likely result in as accurate a detection method, since it is the interfacial tension measurement that allows detection of the target matter and not measurement of resistance changes due to changes in the bulk properties of the chemical sensitive layer, as taught by the present application (and not *Chandra*). For at least these additional reasons, Claim 27, and the claims depending therefrom, are also allowable. Claim 1 and the claims depending therefrom are also allowable for this additional reason. Reconsideration and favorable action are requested.

Independent Claims 27 and 38 are allowable for reasons analogous to those described above in conjunction with independent Claims 1 and 27. Reconsideration and favorable action are requested.

Dependent Claims 7 and 33 are also allowable because of the additional recitation of “wherein the chemical sensitive layer is a mono-layer.” Clearly, this limitation is not shown in *Chandra*. Reconsideration and favorable action is requested.

**CONCLUSION**

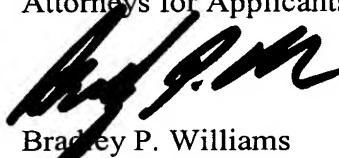
Applicants have now made an earnest attempt to place this case in condition for immediate allowance. For the foregoing reasons and for other apparent reasons, Applicants respectfully request allowance of all pending claims.

If the Examiner feels that prosecution of the present Application may be advanced in any way by a telephone conference, the Examiner is invited to contact the undersigned attorney at 214-953-6447.

Applicants do not believe that any fees are due. However, the Commissioner is hereby authorized to charge these fees and any extra fee or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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